

Ship Sep 28

Work Order ID 136319

136319

Page 1

September 02, 2015 11:00:01 AM

Item ID: D117-837-011 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH
 Start Date: 9/2/2015 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 9/25/2015 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: SH Date: 20150902 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI9706-011	A								
DSI9716	A								
IIN-D117-837	B								
100	Document Control	0.00							
100	DOCUMENT CONTROL								DAS 02 9-09
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D117-837-011 CHG006								SEP 28 2015
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

DAS
27
9-09

SEP 22 2015

DAS
26
9-09

DAS
26
9-09

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width: 100%; border: none;"> <tr> <td style="border: none;">Skid-tube ☐</td> <td style="border: none;">Cross tube ☐</td> <td style="border: none;">Water Jet ☐</td> <td style="border: none;">Engineering ☐</td> </tr> <tr> <td style="border: none;">Machining ☐</td> <td style="border: none;">Small Fab ☐</td> <td style="border: none;">Prod. Eng. Coord. ☐</td> <td style="border: none;">Quality ☐</td> </tr> <tr> <td style="border: none;">Thermoforming ☐</td> <td style="border: none;">Finishing ☐</td> <td style="border: none;">Rec/Store/Packaging ☐</td> <td style="border: none;">Other ☐</td> </tr> <tr> <td style="border: none;">Large Fab ☐</td> <td style="border: none;">Composite ☐</td> <td style="border: none;">Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐	
Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐																						
Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐																						
Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐																						
Large Fab ☐	Composite ☐	Supplier ☐																							
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval																		
Description Work Order Deviation				Disposition				Completed By																	
Root Cause		FAULT CATEGORY																							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : ☐																			

Work Order ID 136319

September 02, 2015 11:00:01 AM

136319

Page 2

Item ID: D117-837-011

Accept

N900040100Setup Start ***NS1***

Revision ID:

Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Stop ***NS2***

Start Date: 9/2/2015 Start Qty: 1.00

1

Cust Item ID:

Required Date: 9/25/2015 Req'd Qty: 1.00

1

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start ***NR1***

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC4- 100% Inspect kits for completeness	0.00							DAS 02 9-89
120									
QC	Memo	0.00							
Quality Control									SEP 28 2015
130		0.00							
130	Packaging								DAS 02 9-89
Packaging	Memo	0.00							
Packaging	Identify and pack for shipping as per PPP D117-837-011								SEP 28 2015
	Location: <u>Ship</u>								
140	QC21- Final Inspection - Work Order Release	0.00							
140									
QC	Memo	0.00							
Quality Control									15/9/28 <i>[Signature]</i>

MF
15-9-28

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐	AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐			
Date :	Step #:	QTY Effective :		MRB (QSI042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation		Disposition			
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐			

Picklist Print

September 02, 2015 11:00:27 AM

Page 1

Work Order ID: 136319

136319

Parent Item: D117-837-011

D117-837-011

Parent Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 9/2/2015

Required Date: 9/25/2015

Start Qty: 1.00

Required Qty: 1.00

Comments: IPP REV:A 13.03.28 NEW ISSUE DD VERF:JLM IPP REV:B
13.06.21 IIN-D117-837 REV.A DD VERF:JFS IPP REV:C 13.12.02
ecn 13-670/ chg002 DD VERF:JLM IPP REV:D 14.07.25 ecn 14-571/
chg003 DD VERF:JLM IPP REV:E 14.07.25 ecn 14-624/ chg004 DD
VERF:JLM IPP REV:F 15.02.02 AS PER DIS9716 DD
VERF:JLM IPP REV:G 15.05.27 now at chg006 DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4911-5 *D4911-5* Bracket	DAS 02 9-89	Manufactured	No				Each	8.0000		2			DAS 6 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				st138				8					
				126510				8		2			
D5203-041 *D5203-041* Strut Assembly	DAS 02 9-89	Manufactured	No				Each	0.0000		1			DAS 6 9-89
										136415			
D5204-1 *D5204-1* Bracket	DAS 02 9-89	Manufactured	No				Each	21.0000		2			DAS 6 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				ST150				21					
				132194				1					
				132999				20					
D5205-1 *D5205-1* Bracket	DAS 02 9-89	Manufactured	No				Each	1.0000		1			DAS 6 9-89
				<u>Location</u>				<u>Loc Qty</u>					
				st151				1					
				129353				1					

SEP 22 2015

Picklist Print

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Page 2

Work Order ID: 136319

136319

Parent Item: D117-837-011

D117-837-011

Parent Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 9/2/2015

Required Date: 9/25/2015

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0832P

Purchased

No

Each

149.0000

2

NAS1149F0832P

WASHER

DAS
02
9-89

Location

Loc Qty

Loc Code

ST267

149

149

18057

2

DAS
27
9-89
SEP 22 2015

DAS
6
9-89

D117-837-111

Manufactured

No

110

Each

0.0000

1

1

D117-837-111

Basket Provision Mounting

DAS
02
9-89

**

136321

DAS
6
9-89

D4784-011

Manufactured

No

110

Each

0.0000

1

1

D4784-011

Basket Assembly, Heavy Duty Lid, LH or RH

DAS
02
9-89

**

136322

DAS
6
9-89

D4911-1

Manufactured

No

110

Each

10.0000

1

1

D4911-1

Bracket

DAS
02
9-89

Location

Loc Qty

Loc Code

st138

10

121945

5

122824

5

1

DAS
27
9-89

DAS
6
9-89

D5106-041

Manufactured

No

110

Each

4.0000

4

4

D5106-041

Bracket Assembly

DAS
02
9-89

Location

Loc Qty

Loc Code

ST155a

4

123162

4

4

DAS
27
9-89

DAS
6
9-89

SEP 22 2015

Picklist Print

Page 3

September 02, 2015 11:00:36 AM

Work Order ID: 136319

136319

Parent Item: D117-837-011

D117-837-011

Parent Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 9/2/2015

Required Date: 9/25/2015

Start Qty: 1.00

Required Qty: 1.00

AN3-11A Purchased No

110 Each 114.0000 2 2

AN3-11A

Bolt

DAS
02
9-89

Location

Loc Qty

Loc Code

ST338a

114

m125709

14

m132823

100

**

DAS

27

9-89

DAS
6
9-89

AN4-12A Purchased No

110 Each 119.0000 4 4

AN4-12A

Bolt

DAS
02
9-89

Location

Loc Qty

Loc Code

FG

10

120423

10

ST344

109

m131957

109

**

DAS

27

9-89

DAS
6
9-89

MS21042-3 MS21042L3 Purchased No

110 Each 549.0000 2 2

MS21042-3

Nut / use MS21042L3

DAS
02
9-89

Location

Loc Qty

Loc Code

CA

501

M129682

501

ST305

48

M128770

10

M129541

15

M130388

23

**

DAS

27

9-89

DAS
6
9-89

SEP 22 2015

M133134

2

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Shop Packet Print

Page 3

Picklist Print

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Page 4

Work Order ID: 136319

136319

Parent Item: D117-837-011

D117-837-011

Parent Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 9/2/2015

Required Date: 9/25/2015

Start Qty: 1.00

Required Qty: 1.00

MS21042L4

Purchased

No

110

Each

2,274.000

4

4

MS21042L 4

Locknut

DAS
27
9-89

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

FP001

2

m124231

2

GA

122

m127813

122

ST260a

170

m130799

56

m131803

6

m132262

108

ST305

1980

m128300

8

m130388

7

m130922

97

m131618

12

m132123

56

m132382

1800

4

MS21069L3

Purchased

No

110

Each

65.0000

8

8

MS21069L 3

ANCHOR NUT

DAS
27
SEP 2 2015

DAS
6
9-89

DAS
02
9-89

Location

Loc Qty

Loc Code

ST301

65

m131618

18

m133019

47

8

Picklist Print

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Work Order ID: 136319

136319

Parent Item: D117-837-011

D117-837-011

Parent Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 9/2/2015

Required Date: 9/25/2015

Start Qty: 1.00

Required Qty: 1.00

MS27039-1-08

Purchased

No

110

Each

700.0000

8

8

MS27039-1-08

Screw

DAS
02
9-89

Location

Loc Qty

Loc Code

CA

96

m128636

96

FP001

359

m128636

359

GA

2

125654

2

ST285

243

m128636

243

NAS1097AD34

~~NAS1097AD34~~

Purchased

No

110

Each

4,995.000

16

16

NAS1097AD34

RIVET

DAS
02
9-89

Location

Loc Qty

Loc Code

ST272

4995

M127550

6

M132525

4989

NAS1149D0416J

Purchased

No

110

Each

4,656.000

8

8

NAS1149D0416J

WASHER

NAS1149D0416J = OK.
QSL 042.
15.09.28

Location

Loc Qty

Loc Code

GA

364

m131511

364

ST270

4292

m131511

4292

DAS
27
9-89

DAS
6
9-89

DAS
6
9-89

DAS
27
9-89

DAS
27
9-89

SEP 22 2015

DAS
6
9-89

September 02, 2015 11:01:03 AM

Shop Packet Print

Page 5

September 02, 2015 11:01:03 AM

Parent Item: D117-837-011

D117-837-011

Parent Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH

Start Date: 9/2/2015**Required Date:** 9/25/2015

Start Qty: 1.00

Required Qty: 1.00

NAS1149F0332P

Purchased

No

110

Each

1,913.000

NAS1149F0332P

Washer

DAS 27
 SEP 27 2015

DAS
02
9-89

Location

Loc Qty

Loc Code

GA

210

122063

210

ST260a

1610

m128401

6

m131026

80

m131697

524

m133077

1000

st268

93

123900

7

m130388

86

DART SERVICE INSTRUCTION

TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-837 REV. B AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-837 REV. 1
REF. TCCA STC: SH13-22
REF. FAA STC: SR03353NY

1.0 Purpose

The purpose of this Dart Service Instruction (DSI) is to provide instructions to relocate and replace the basket strut assembly on the D117-837-011 Basket Installation for improved reliability in service. The new D5203-041 Strut Assy, D5204-1 Bracket and the D5205-1 Bracket replace the old D4794-043 Strut Assy and D4911-1/-5 Brackets for customers who have D117-837-011 Heli-Utility-Basket at CHG 002 thru CHG 004. The D5204-1 Bracket attaches to the fwd crosstube hardpoint bolt in order to move the drag load away from the aircraft skin structure.

2.0 Permanent Removal of D4911-1/-3/-5 Brackets

- 2.1 For D117-837-011 Heli-Utility-Baskets at CHG 003, remove and discard the D4794-043 Strut Assy by disconnecting 2x MS17984-C405 quick release pin.
- 2.2 For D117-837-011 Heli-Utility-Baskets at CHG 002, remove and discard the D4794-041 Strut Assy by disconnecting AN4-7 bolts and associated Hardware from both ends of D4794-041 Strut Assy.
- 2.3 For D117-837-011 Heli-Utility-Baskets at CHG 003, Discard the D4911-3 Bracket from airframe and reinstall 2x MS27039-1-08 Screws and 2x NAS1149F0332P washers.
- 2.4 For D117-837-011 Heli-Utility-Baskets at CHG 004, Discard the D4911-5 Bracket from airframe and reinstall 4x MS27039-1-08 screws and 4x NAS1149F0332P washers.
- 2.5 Repeat steps 2.3 to 2.4 for opposite side of the aircraft if the aircraft has been configured with basket provisions on both sides.
- 2.6 Remove the D4911-1 Bracket and associated hardware from the basket.
- 2.7 Inspect the underlying aircraft structure for damage. If cracking/buckling of the aircraft structure is observed, repair per BK117 Aircraft Maintenance Manual Chapter 21-1.

3.0 Installation of D5203-041 Strut Assy (RH strut installation shown, LH similar)

- 3.1 Remove the RH fwd crosstube aft p/n 105-50001.33 stepped washer (item 380) and replace with D5204-1 Bracket and NAS1149F0832P washer. Reinstall nut and torque per Aircraft Maintenance Manual. Reinstall split pin per Figure 1.
- 3.2 Install D5205-1 Bracket and associated hardware at basket rib shown in Figure 3.
- 3.3 Install D5203-041 Strut Assy onto D5204-1 Bracket and D5205-1 Bracket by connecting 2x MS17984-C405 Quick Release Pins as shown in Figures 2 and 3. Make adjustments to the AN665-34R threaded clevises and lock with NAS509-4C jam nuts. Secure the NAS509-4C jam nuts using lock wire per AC 14.13 or MS33540. After adjustment, use lockwire in the hole of the AN665-34R clevises to check for proper engagement of threads. It is acceptable to flip MS17984-C405 Quick Release Pin orientation as shown in Figures 2 and 3 to facilitate for suitable D5203-041 Strut Assy installation.
- 3.4 Repeat step 3.1 for opposite side of the aircraft if the aircraft is to be configured with basket provisions on both sides.

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO #01-O-01

APPROVED

BY: 
D. SHEPHERD (DE # 02)

DATE: 15.01.06
CERT. NO.: SH13-22
ISSUE NO.: 1

54 13639. 20150902

A	NEW ISSUE	RF	15.01.06
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9716	SHEET 1 OF 4
APPROVED		TITLE	SCALE
DE APPR.		STRUT RELOCATION	NTS
DATE	15.01.06	COPYRIGHT © 2015 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 005, the Parts List in ICA-D117-837 and IIN-D117-837 (as modified per DSI 9706 Rev. A) should be updated as follows:

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
1	D4784-011	BASKET ASSEMBLY, HEAVY DUTY, LH/RH
4	D5106-041	BRACKET ASSY
1	D5203-041	STRUT ASSY (REPLACES D4794-043)
2	D5204-1	BRACKET
1	D5205-1	BRACKET
2	AN3-11A	BOLT
4	AN4-12A	BOLT
2	NAS1149F0332P	WASHER
8	NAS1149F0446R	WASHER
2	NAS1149F0832P	WASHER
2	MS21042L3	NUT
4	MS21042L4	NUT

Q81072
15.09.28

For D117-837-011 Heli-Utility-Baskets @ CHG 002 thru CHG 004, the DSI 9716-011 Strut Relocation Kit is available from Dart.

Qty -011	Part Number	Description
X	DSI 9716-011	STRUT RELOCATION KIT
1	D5203-041	STRUT ASSY (REPLACES D4794-043)
2	D5204-1	BRACKET
1	D5205-1	BRACKET
2	AN3-11A	BOLT
2	NAS1149F0332P	WASHER
2	NAS1149F0832P	WASHER
2	MS21042L3	NUT

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY:

D. SHEPHERD (DE # 02)

DATE: 15.01.06
CERT. NO.: SH13-22
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	HS	DRAWING NO. REV. A
MFG. APPR.	N/A	DSI 9716 SHEET 2 OF 4
APPROVED		TITLE SCALE
DE APPR.		STRUT RELOCATION NTS
DATE	15.01.06	COPYRIGHT © 2015 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.

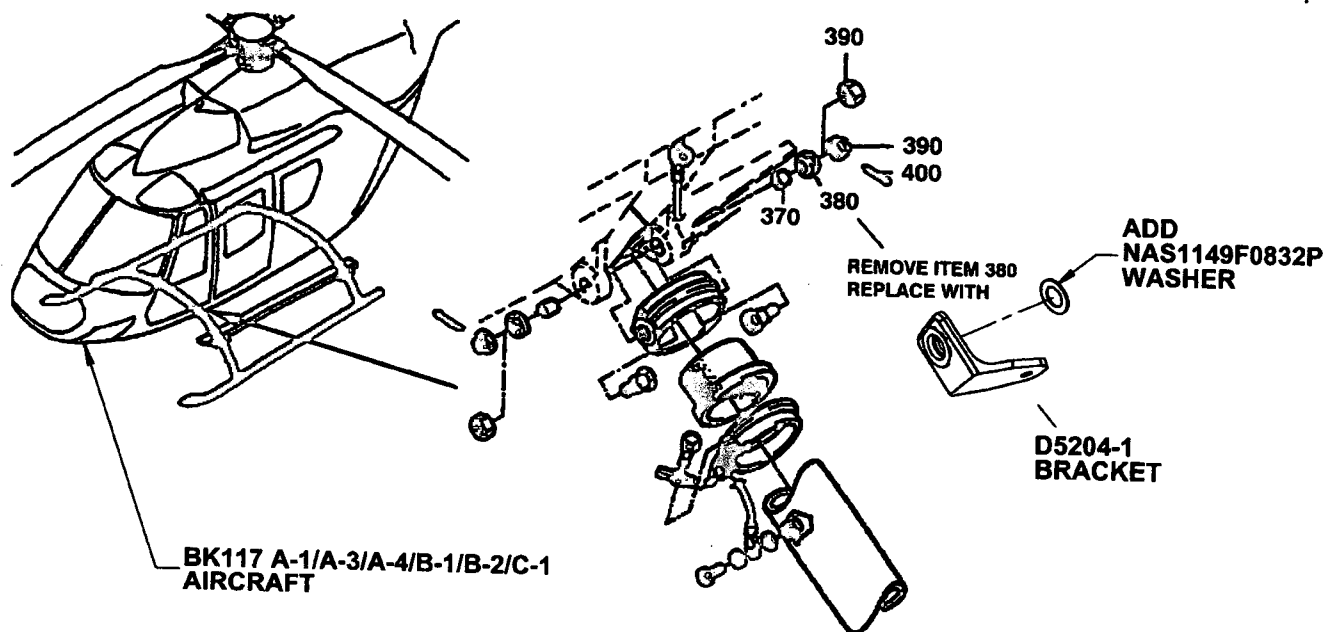


FIGURE 1. D5204-1 BRACKET INSTALLATION
(LH INSTALLATION SHOWN, RH OPPOSITE)

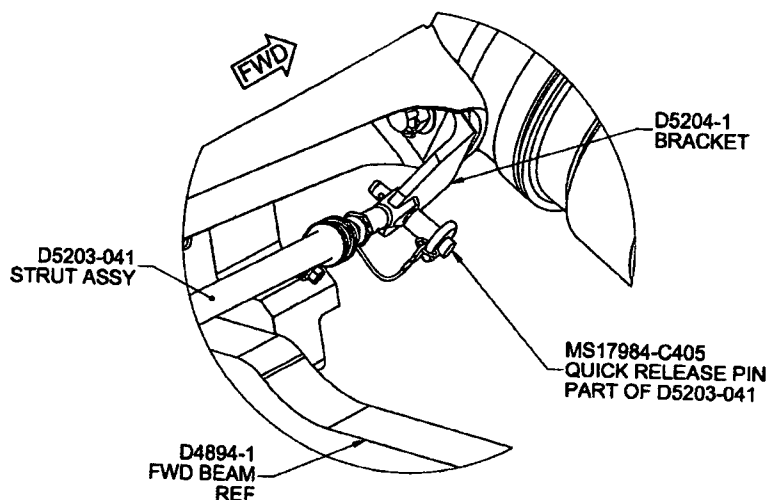


FIGURE 2. D5204-1 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)
(BASKET & AIRCRAFT SKIN NOT SHOWN FOR CLARITY)

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 15.01.06
CERT. NO.: SH13-22
ISSUE NO.: 1

DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	HS	DRAWING NO.	REV. A
MFG. APPR.	N/A	DSI 9716	SHEET 3 OF 4
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	STRUT RELOCATION	NTS
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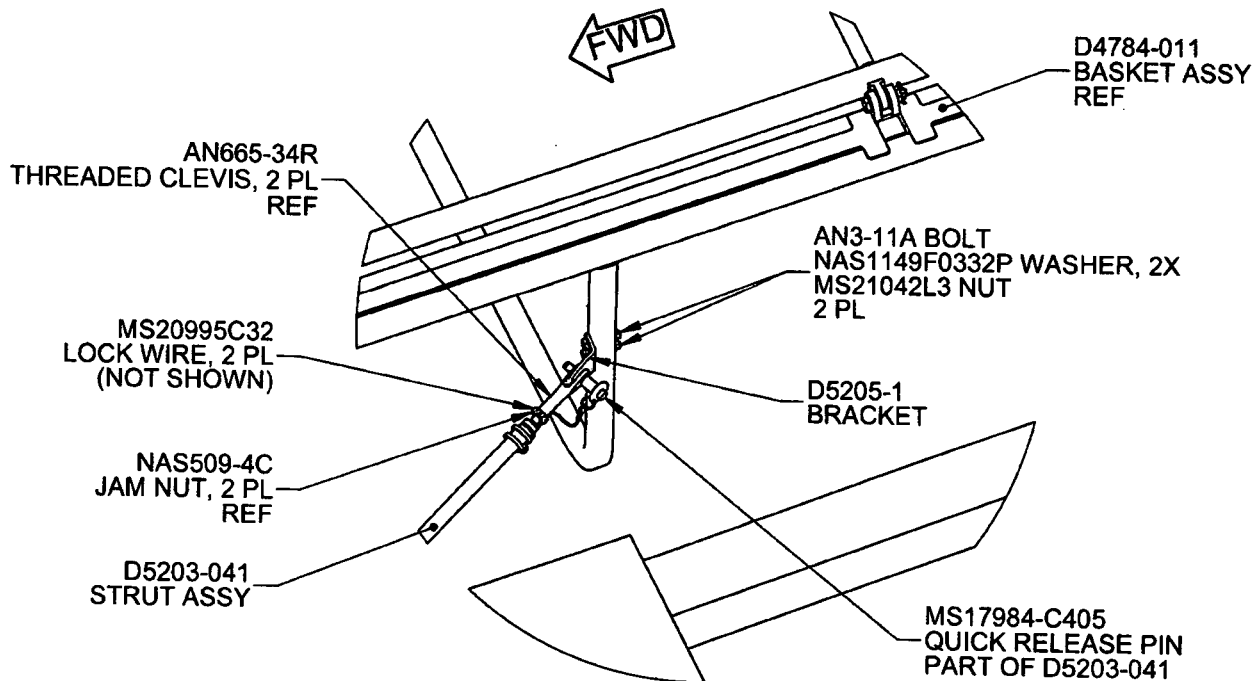


FIGURE 3. D5205-1 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

APPROVED

BY: *[Signature]*
D. SHEPHERD (DE # 02)

DATE: 15.01.06
CERT. NO.: SH13-22
ISSUE NO.: 1

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DART SERVICE INSTRUCTION
TO AMEND INSTALLATION INSTRUCTIONS IIN-D117-837 REV. B AND
INSTRUCTIONS FOR CONTINUED AIRWORTHINESS ICA-D117-837 REV. 1
REF. TCCA STC: SH13-22
REF. FAA STC: SR03353NY

1.0 Purpose

The purpose of this Dart Service Instruction (DSI) is to provide instructions to replace the D4911-3 Bracket with a D4911-5 Bracket for customers who already have D117-837-011 at CHG 002 or CHG 003. The D4911-5 Bracket will better distribute the drag load from the D117-837-011 Heli-Utility-Basket to the airframe in flight.

2.0 Removal of D4911-3 Bracket

- 2.1 For D117-837-011 Heli-Utility-Baskets at CHG 003, temporarily remove the D4794-043 Strut Assy from the D4911-1/-3 Brackets by disconnecting 2x MS17984-C405 quick release pin.
- 2.2 For D117-837-011 Heli-Utility-Baskets at CHG 002, temporarily remove the D4794-041 Strut Assy from the D4911-1/-3 Brackets by disconnecting AN4-7 bolts and associated Hardware from both ends of D4794-041 Strut Assy.
- 2.3 Remove the D4911-3 Bracket from airframe by removing 2x MS27039-1-08 Screws and 2x NAS1149F0332P washers.
- 2.4 Inspect the underlying aircraft structure for damage. If cracking/buckling of the aircraft structure is observed, repair per BK117 Aircraft Maintenance Manual Chapter 21-1.

3.0 Installation of D4911-5 Bracket

- 3.1 Temporarily remove LH/RH side cabin outboard floor panels as applicable.
- 3.2 Using D4911-3 Bracket as a template, transfer 2x $\varnothing 0.196"$ (#9 drill) holes from D4911-3 to new D4911-5 Bracket as shown in Figure 1.
- 3.3 Using the D4911-5 as a template, remove two rivets at STA 156.3 (3970) under the D4911-5 Bracket. Transfer drill these rivet holes to the D4911-5 Bracket as shown in Figure 1. Enlarge rivet holes to $\varnothing 0.196"$ (#9 drill) in the aircraft rib and on the D4911-5 Bracket. Transfer $\varnothing 0.098"$ (#40 drill) for MS21069L3 anchor nut and c/sink/dimple holes for NAS1097AD3-(4) rivet as shown in Figure 2. Deburr and touch-up aircraft holes with Alodine 1200/1201 per MIL-C-5541.
- 3.4 Install 2x MS21069L3 anchor nuts using NAS1097AD3-(4) rivets as shown in Figure 2.
- 3.5 Install D4911-5 Bracket into the aircraft ribs using 4x MS27039-1-08 screws and 4x NAS1149F0332P washers as shown in Figure 1. Torque screws to 20-25 in-lbs (2.3-2.8 N-m).
- 3.6 For D117-837-011 Heli-Utility-Baskets at CHG 003, install D4794-043 Strut Assy into D4911-1/-5 Brackets by connecting 2x MS17984-C405 quick release pin per ICA-D117-837 Rev.1.
- 3.7 For D117-837-011 Heli-Utility-Baskets at CHG 002, install D4794-041 Strut Assy into D4911-1/-5 Brackets by installing AN4-7 bolt, 2x NAS1149F0463P washer, AN310C4 nut, MS24665-151 cotter pin in both ends of D4794-041 Strut Assy per ICA-D117-837 Rev.0.
- 3.8 Re-install LH/RH side cabin outboard floor panels as applicable.
- 3.9 Repeat steps 3.1 to 3.8 for opposite side of the aircraft if the aircraft has been configured with basket provisions on both sides.

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BY: D. Shepherd
D. SHEPHERD (DE # 02)

DATE: 14.09.03
CERT. NO.: SH13-22
ISSUE NO.: 1

54 136319 20150902

A	NEW ISSUE	RF	14.09.03
REV.	DESCRIPTION	BY	DATE
DESIGN	RF	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	HS		
MFG. APPR.	N/A	DRAWING NO.	REV. A
APPROVED	<u>DS</u>	DSI 9706	SHEET 1 OF 3
DE APPR.	<u>DS</u>	TITLE	SCALE
DATE	14.09.03	BRACKET MODIFICATION	NTS
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4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 004, the Parts List in ICA-D117-837 and IIN-D117-837 should be updated as follows:

IS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-5	BRACKET (REPLACES D4911-3)
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
10	NAS1149F0332P	WASHER

WAS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-3	BRACKET
4	MS21069L3	ANCHOR NUT
4	MS27039-1-08	SCREW
8	NAS1097AD3-4	RIVET
6	NAS1149F0332P	WASHER

For D117-837-011 Heli-Utility-Baskets @ CHG 002 or CHG 003, the DSI 9706-011 Basket Modification Kit is available from Dart.

Qty -011	Part Number	Description
X	DSI 9706-011	BRACKET MODIFICATION KIT
2	D4911-5	BRACKET
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
8	NAS1149F0332P	WASHER

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

CANADA
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AIRCRAFT CERTIFICATION
BRANCH
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D. SHEPHERD (DE # 02)

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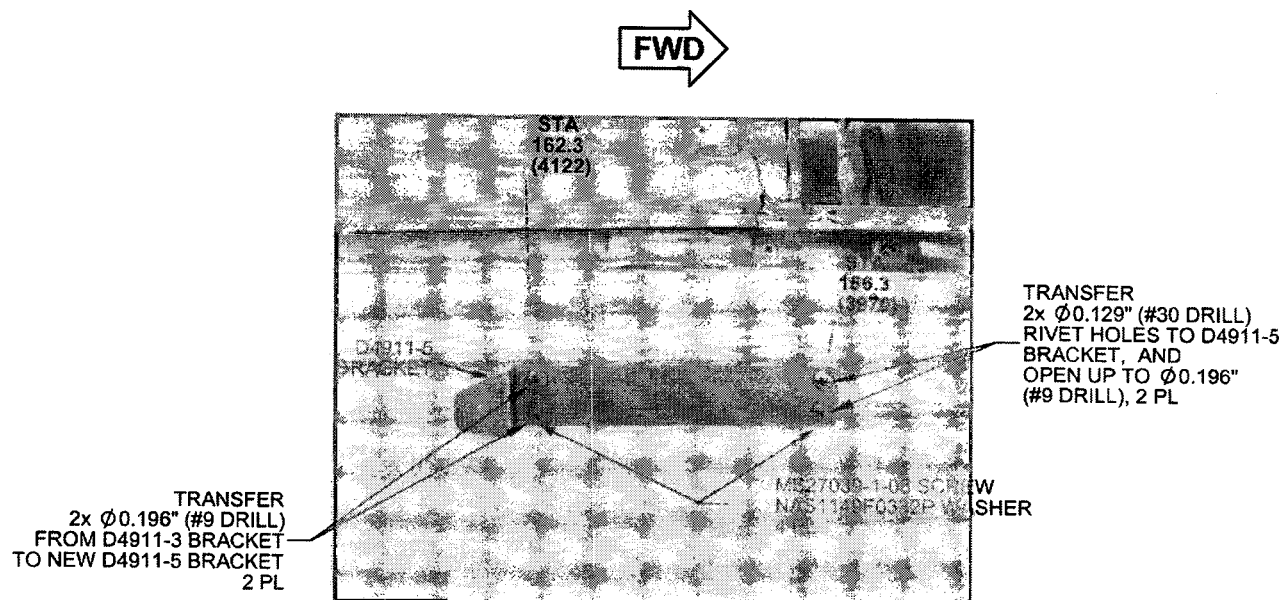


FIGURE 1. D4911-5 BRACKET INSTALLATION
(RH INSTALLATION SHOWN, LH OPPOSITE)

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MFG. APPR.	N/A		SHEET 3 OF 3
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5.0 PARTS LIST

Qty -011	Qty -013	Qty -111	Part Number	Description
X			D117-837-011	HELI-UTILITY-BASKET, LH/RH
	X		D117-837-013	PROP ARM KIT
1		X	D117-837-111	BASKET PROVISION MOUNTING KIT
	1*		D2332-041	PROP ASSEMBLY (OPTIONAL)
	4*		D3953-9	WASHER
1			D4784-011	BASKET ASSEMBLY, HEAVY DUTY, LH/RH
1			D4794-043	STRUT ASSY
		2	D4893-1	HARDPOINT ADAPTER, LH
		2	D4893-2	HARDPOINT ADAPTER, RH
		1	D4894-1	FWD BEAM
		1	D4894-3	AFT BEAM
		1	D4895-045	FWD OUTBOARD BEAM ASSY
		1	D4895-047	AFT OUTBOARD BEAM ASSY
1			D4911-1	BRACKET
2			D4911-3	BRACKET
4			D5106-041	BRACKET ASSY
2			AN3-11A	BOLT
4			AN4-12A	BOLT
		4	AN4-17A	BOLT
		12	AN5-23A	BOLT
		12	MS20002C6	WASHER
2			MS21042-3	NUT
4		4	MS21042L4	NUT
		12	MS21042L5	NUT
		12	MS21042L6	NUT
4			MS21069L3	ANCHOR NUT
		12	MS21250-06022	BOLT
4			MS27039-1-08	SCREW
8			NAS1097AD3-4	RIVET
	3*		NAS1149C0463R	WASHER (or AN960C416)
8		8	NAS1149D0416J	WASHER (or AN960JD416L)
		24	NAS1149D0516J	WASHER (or AN960JD516L)
		12	NAS1149D0616J	WASHER (or AN960JD616L)
6			NAS1149F0332P	WASHER (or AN960-10L)

* D2332-041 PROP ASSEMBLY & HARDWARE (OPTIONAL) TO REPLACE D3969-3 GAS SPRING

4.0 Parts List

For D117-837-011 Heli-Utility-Baskets @ CHG 004, the Parts List in ICA-D117-837 and IIN-D117-837 should be updated as follows:

IS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, L.H/RH
2	D4911-5	BRACKET (REPLACES D4911-3)
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
10	NAS1149F0332P	WASHER

— 1/4 L x A 3/32

WAS

Qty -011	Part Number	Description
X	D117-837-011	HELI-UTILITY-BASKET, LH/RH
2	D4911-3	BRACKET
4	MS21069L3	ANCHOR NUT
4	MS27039-1-08	SCREW
8	NAS1097AD3-4	RIVET
6	NAS1149F0332P	WASHER

For D117-837-011 Heli-Utility-Baskets @ CHG 002 or CHG 003, the DSI 9706-011 Basket Modification Kit is available from Dart.

Qty -011	Part Number	Description
X	DSI 9706-011	BRACKET MODIFICATION KIT
2	D4911-5	BRACKET
8	MS21069L3	ANCHOR NUT
8	MS27039-1-08	SCREW
16	NAS1097AD3-4	RIVET
8	NAS1149F0332P	WASHER

5.0 Weight & Balance

This DSI has a negligible effect on Weight & Balance

CANADA
DEPARTMENT OF TRANSPORT
AIRCRAFT CERTIFICATION
BRANCH
DAO # 01-O-01

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BY: 
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CHECKED	HS	DRAWING NO. REV. A
MFG. APPR.	N/A	DSI 9706 SHEET 2 OF 3
APPROVED		TITLE SCALE
DE APPR.		BRACKET MODIFICATION NTS
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5.0 PARTS LIST

Qty -011	Qty -013	Qty -111	Part Number	Description
X			D117-837-011	HELI-UTILITY-BASKET, LH/RH
	X		D117-837-013	PROP ARM KIT
1		X	D117-837-111	BASKET PROVISION MOUNTING KIT
	1*		D2332-041	PROP ASSEMBLY (OPTIONAL)
	4*		D3953-9	WASHER
1			D4784-011	BASKET ASSEMBLY, HEAVY DUTY, LH/RH
1			D4794-043	STRUT ASSY
		2	D4893-1	HARDPOINT ADAPTER, LH
		2	D4893-2	HARDPOINT ADAPTER, RH
		1	D4894-1	FWD BEAM
		1	D4894-3	AFT BEAM
		1	D4895-045	FWD OUTBOARD BEAM ASSY
		1	D4895-047	AFT OUTBOARD BEAM ASSY
1			D4911-1	BRACKET
2			D4911-3	BRACKET
4			D5106-041	BRACKET ASSY
2			AN3-11A	BOLT
4			AN4-12A	BOLT
		4	AN4-17A	BOLT
		12	AN5-23A	BOLT
		12	MS20002C6	WASHER
2			MS21042-3	NUT
4		4	MS21042L4	NUT
		12	MS21042L5	NUT
		12	MS21042L6	NUT
4			MS21069L3	ANCHOR NUT
		12	MS21250-06022	BOLT
4			MS27039-1-08	SCREW
8			NAS1097AD3-4	RIVET
	3*		NAS1149C0463R	WASHER (or AN960C416)
8		8	NAS1149D0416J	WASHER (or AN960JD416L)
		24	NAS1149D0516J	WASHER (or AN960JD516L)
		12	NAS1149D0616J	WASHER (or AN960JD616L)
6			NAS1149F0332P	WASHER (or AN960-10L)

* D2332-041 PROP ASSEMBLY & HARDWARE (OPTIONAL) TO REPLACE D3969-3 GAS SPRING

Ship Sept 28

Work Order ID 136319

136319

Page 1

September 02, 2015 11:00:01 AM

Item ID: D117-837-011 Accept *N900040100* Setup Start *NS1*
 Revision ID: Stop *NS2*
 Item Name: Quick Release Heli-Utility-Basket™ Fits LH or RH
 Start Date: 9/2/2015 Start Qty: 1.00 *1* Cust Item ID:
 Required Date: 9/25/2015 Req'd Qty: 1.00 *1* Customer:
 Reference:

Approvals: Process Plan: SH Date: 20150902 Tooling: _____ Date: _____ Run Start *NR1*
 QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr	Revision Nbr								
DSI9706-011	A								
DSI9716	A								
IIN-D117-837	B								
100	Document Control	0.00							
100	DOCUMENT CONTROL								
DC	Memo	0.00							
Doc.Control -USB or Paperwork	Photocopy bluefile & type labels per PPP D117-837-011 CHG006								
110	Pick Kit	0.00							
110									
Packaging	Memo	0.00							
Packaging									

See label

MLJ SEP 21 2015